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## Investment Industry Trends Implications for ASRS

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## Secular Marketplace Trends

### Globalization of opportunities

Is the distinction between domestic and international investments becoming obsolete?

### Potential declining demand for equities

Baby-boomers move from accumulating to disposing of investments

Corporate plans begin to match assets and liabilities

## Recent Changes in the Market Environment

### Broadening the opportunity set

### A new appreciation for risk

Behaviour of correlations under stress

### Increasing numbers and types of exotic securities

More focus on, and sophistication of, risk management at the total portfolio level

- Total volatility limits

- Risk budgeting by asset class and sub-asset class

- Trade-off between risk management and return potential

More Sophisticated Portfolio Construction

- Alpha vs. Beta

  - Get beta in one place and alpha from another

  - Get alpha from of a diversified package of concentrated strategies

    - Alpha level optimization

    - Requires understanding of alpha correlations

- Dynamic asset allocation

- Dynamic manager management

# Agenda

New sources of investment returns

- New Betas

  - Commodities

  - Infrastructure

- New Alphas

  - Future is fuzzy

- Event-Driven opportunistic investments

  - Very short decision cycle

    - Example: Distressed Debt Funds

  - A challenge for governance models

- Are these new sources of beta and alpha appropriate, desirable, or necessary

Implications for ASRS

## Secular Marketplace Trends

### Globalization of Opportunities

‘Local investing’ is becoming more difficult as US and non-US multinationals dominate business activity, the investment world is becoming seamless

Household US brands- McDonald’s, Starbucks, S C Johnson operate around the world

Non-US multinationals compete in the US market- Tesco, Nokia, T-Mobile

Most investment management research organizations are based on global industries, not geographic distinctions

Emerging markets are now mainstream investment opportunities

Foreign investment is seen as a key driver of growth and archaic practices and restrictions are seen as an obstacle

## Secular Marketplace Trends

### Globalization of Opportunities

Is the distinction between domestic and international investment becoming obsolete?

International investing become a factor for institutions only in the 1970's

Research was difficult and trading, settlement, and custody complex

Concerns about economic and political stability of non-US markets were valid

Is it proper to have investments denominated in a foreign currency when the liabilities are in US dollars- impact of devaluations

Until the Euro, perhaps only the Swiss Franc, the Deutschmark and the British Pound were considered safe European currencies

Investments denominated in the Italian Lira?

Currency hedging was not very well developed

## Secular Marketplace Trends

### Globalization of Opportunities

Is the distinction between domestic and international investment becoming obsolete?

The US market is now less than 50% of global equity capitalization

Growth is more rapid outside the US

Central banks- US Federal Reserve, Bank of England, European Central Bank, Bank of Japan, and the Reserve Bank of Australia, among others, work to maintain a global economic system

Mercer believes that the distinction between domestic and international and between developed and some emerging markets will disappear in the relatively near future

The result will be a global equity strategic allocation with tactical allocations to geographic, style, and degree of development mandates

During 2008, Mercer will probably issue a House View that non-domestic equity should constitute 40% of total equity

## Secular Marketplace Trends

### Potential Declining Demand for Equities

In the post World War II period, equities have been the largest component and principal wealth generating asset in virtually all institutional portfolios

Are demographic and business trends changing in a way that will reduce the demand for equities in the not-too-distant future?

Baby-boomers are beginning to move from years of accumulation of assets to their consumption

The tremendous wealth created by the Depression/World War II generation is being transferred by their passing to more consumption-oriented generations

The related move toward participant directed plans is also impacting the demand for equity as participants generally elect to invest too little of their assets in equity, certainly less than generally found in the Defined Benefit plans that are disappearing

## Potential Declining Demand for Equities

### Corporate Plans Begin to Match Assets and Liabilities

Driven by changes in accounting rules, corporate plan sponsors are moving toward an environment where the assets and liabilities of the defined benefit plan are effectively consolidated with the financials of the plan sponsor

This is the direction of International Accounting Standard (IAS) 19

The FASB has released FASB 158 which will impact balance sheets

The FASB has already stated there is a phase II which will impact income statements

The Pension Protection Act of 2006 (PPA) has tightened rules for funding deficits

These changes have had the effect of increasing the cost (contributions) of many pension plans and heightened the impact of volatility of contributions

## Potential Declining Demand for Equities

### Corporate Plans Begin to Match Assets and Liabilities

Where CFOs previously tended to favor the use of equity to reduce total cost of the pension plan, now volatility of contributions and pension expense have become more important

Many corporate plan sponsors are considering Liability Directed Investing (LDI), using assets- long duration bonds, which match the behavior of the liabilities over equities

They are willing to trade high, more stable contributions and expense for lower but much more volatile contributions and expense

There is also the option of simply freezing the plan to avoid generating future benefit accruals or if the interest rate environment is favorable, terminating the plan and purchasing annuities for accrued benefits (required under ERISA)

## Potential Declining Demand for Equities

### Corporate Plans Begin to Match Assets and Liabilities

While none of these considerations apply to ASRS, the behavior of corporate plans does affect ASRS' investments

- Pursuing an LDI strategy reduces the demand for equity and will likely reduce future equity returns

- The investments of a fully 'LDI-ed' plan are generally interest rate swaps providing a synthetic long duration bond portfolio

- Freezing a plan will similarly reduce the demand for investments of all types

- There are no future accruals and when any deficit is covered, no additional contributions are required as laddered bond portfolio immunizing the plan for changes in interest rates and providing cash flows to match benefit payments is typically used

- Terminating a plan generally substitutes relatively low equity participant directed investments for high equity sponsor directed investments

## Recent Changes in the Market Environment

### A New Appreciation for Risk

We have been through a 5 year period, 2002-2007, where markets were very well behaved

- Central bank policy provided stable, low inflationary growth

- Liquidity in the credit markets was very high

- Stock market volatility, measured by the VIX, fell to historically low levels

- Credit spreads in the bond market very low

There was a perception that risk, like inflation, had been banished from the markets

- The most dangerous words in finance – ‘It Is Different This Time’

- Increasingly risky financial practices (sub-prime lending), aggressive strategies (use of leverage), and potentially volatile securities (collateralized debt obligations) proliferated

## Recent Changes in the Market Environment

### A New Appreciation for Risk

Recent developments have dramatically changed the market's perception of risk

- Equity market volatility has returned with a vengeance

- Credit spreads have widened and unlike other similar changes in the past, some securities, considered to be investment grade or even Triple-A, have been repriced by the market as having much more risk

- As has previously been the case, leverage has been found to be dangerous when events do not move in the expected manner

- Some more sophisticated derivative securities, previously priced using models, were found to have no bids at all, deemed at least temporarily worthless, in periods of market stress

- We have seen the interplay between leverage and unmarketable securities threaten the liquidity and stability of the markets themselves

## Recent Changes in the Market Environment

### A New Appreciation for Risk

At least while memories of the recent unpleasantness are still vivid, it seems reasonable that the market appetite for aggressive management techniques (many hedge funds), complex securities (collateralized debt obligations, structured investment vehicles), and risky investment practices will be significantly less

However, the need for return will not permit retreating to a super-safe investment strategy

Super-safe securities will not produce an acceptable return forcing dramatic increases in contributions and reducing the potential for benefit increases

A more nuanced approach to return and risk management will be required.

## Recent Changes in the Market Environment

### A New Appreciation for Risk

New approaches to addressing the balance between desire for return and the tolerance for risk will be developed

It would appear that some investors will go back to making money the old fashioned way- generally earning it with traditional investments in traditional structures

There will be room for innovation, in fact, given low expected returns, innovation will be required

However, the innovation will not be the result of sophisticated financial engineering but rather in finding new asset classes which have much in common with traditional assets

Other investors will adopt a portfolio structure, employing many new sources of beta and different conceptions of sources of alpha with explicit risk budgeting and management techniques

# Recent Changes in the Market Environment

## A New Appreciation for Risk

### A Prediction

For those investors taking the new path, the portfolio structures and management techniques used will be as different in five years as the present portfolio structures and management techniques are from those of thirty years ago

## More Sophisticated Approaches for Building Portfolios

Institutional portfolios have historically been built using a variable blend of passive and diversified active strategies, depending on the asset class

Historically more passive in large cap domestic equity and fixed income

Any effort to structure the active portion to optimize alpha sources and reduce alpha correlations has been done non-systematically

The result was to have many managers, each very benchmark aware, generally cancelling out each other's decisions and generating an expensive closet index fund

The result is a portfolio that, net of fees, produces performance very close to index returns

## More Sophisticated Approaches for Building Portfolios

As the institutional investing market has embraced the consideration of beta (market return) and alpha (manager value-added) separately, a much more sophisticated approach has evolved

Beta, market exposure required by the strategic asset allocation, will be achieved by relatively high levels of passive management

The decision to seek alpha will be made based on a critical assessment of the likelihood of winning and whether the magnitude of a win is sufficient to balance the costs and risks

Alpha, where judged attractive, will be sought from a diversified portfolio of aggressive, high conviction, investment strategies with identified and well understood strategies for generating alpha, combined using optimization of expected alpha, alpha volatility, and alpha correlations

This portfolio would look very different from ASRS' current structure

## More Sophisticated Approaches for Building Portfolios

Portfolios are individually structured to optimize alpha exposure

Maximum correlation to the market (say 0.85) ceilings are established for active managers

Maximum intra-manager correlations (say 0.80) ceilings are established to avoid excessive manager overlap

Aggregate holdings are monitored continuously to ensure that there is a 'net-bet' against the market

Managers are selected to have distinct strategies unlikely to overlap

Only high conviction managers who do not provide diversified portfolios are used

These managers generally have high tracking error versus the benchmark for short periods

Some of these managers will have periods of truly awful performance and will need to be retained

Universe comparisons for managers will be of limited value

## More Sophisticated Approaches for Building Portfolios

Sophisticated software is used to generate an alpha-optimized portfolio

This provides a second level of optimization after the beta optimization of the strategic asset allocation process

Alpha optimization utilizes alpha, tracking error, alpha volatility, and alpha correlations at the manager level, derived from an in-depth analysis of the manager's process for adding value

The forecasted alpha and tracking error are used for Information Ratio (IR) optimization while the alpha correlations are used for alpha diversification analysis

Performance evaluation will focus less on performance versus other managers as there will be few comparable products

Assessments would focus on confidence of continued value-added potential and the stability of alpha correlation

## More Sophisticated Approaches for Building Portfolios

Mercer Investment Consulting uses its Portfolio Structuring Toolkit for these analyses supported by asset class and manager-level forecasts of alpha, tracking error, alpha volatility, and alpha correlations

Asset class assumptions are also developed to validate and provide a base for the manager level assumptions

The software also provides a risk budgeting function which monitors the risk exposures on an asset and returns basis and establishes a maximum contribution to total risk at the total portfolio level

Mercer Investment Consulting may issue a House View in 2008 that the traditional model of a large number of diversified managers is unlikely to provide investment success and alternative structures should be considered such as those discussed above

# More Sophisticated Approaches for Building Portfolios

There also are two further new concepts for consideration

## Dynamic Asset Allocation

Adjusting target asset allocations to asset classes or styles within broad limits established by strategic asset allocation using valuation-based models that predict future performance based on regression to the mean of significantly abnormal valuations with adjustments as often as quarterly or annually

Explicit risk limits and optimization are required

Position shifts would be relatively small and would be achieved by reallocation of passive weights

## Dynamic Manager Management

A more nuanced approach than 'retain or fire', DMM would make periodic significant allocation shifts within a pool of managers including lowering allocations to insignificant levels when appropriate

# New Sources of Investment Returns

## New Betas

Where previously the search for alpha took many institutional investors into the wilds of hedge funds and exotic management techniques, frequently involving computer modeled derivative securities, the evolving trend is to also consider new markets where market returns, not sophisticated financial engineering, provide new sources of return relatively undiversified with existing bonds and stocks

### Commodities

Investing in industrial, agricultural, energy, and financial commodities provides a diversification away from paper assets

While there is some economic sensitivity, the overall global demand to these generally non-renewable resources is growing

### Currency

Strategic positions in undervalued currencies and short positions in overvalued currencies

# New Sources of Investment Returns

## New Betas

### Infrastructure

Investing in revenue generating infrastructure- roads, bridges, water and power systems that require significant capital investments but return a long-term, stable or growing income flow

These characteristics match well with the income needs of a mature defined benefit plan

### European credit fixed income

Investing in the relatively new market for European corporate debt has a very low correlation with domestic fixed income, either Treasury/Agency or credit

### Emerging technologies

Opportunities in technologies such as solar which has a bright future as an alternative to fossil fuels

# New Sources of Investment Returns

## New Alphas

We have been through a period where new and wonderful sources of alpha seemed to be appearing everywhere

They seemed to share many characteristics

They were untested in difficult times, in fact in any times other than the immediate present

They were sophisticated, complex, and relied on a high degree of skill that in ordinary times seemed to be in short supply

They had high fees

It was difficult to interpret performance

They were considered new and exciting, particularly by people selling them

Many have crashed and burned

We need to consider new betas, new alphas, and new techniques for achieving alpha with traditional securities

## New Sources of Investment Returns

### Short-Decision Cycle Opportunities

Evolving market conditions periodically create opportunities for profitable investments that are unique and available for short periods of time – for example, distressed debt funds today

If feasible, it is desirable to allocate a small, 5-10% of total fund, to these opportunistic investments, however

- As it is impossible to anticipate what the opportunities will be, this portion of the portfolio can not be modeled in a strategic asset allocation process

- They will generally only be available for very limited periods because the market anomaly they seek to profit from is very transitory

- They will often have no benchmark, history other than of the team managing it, or universe of similar managers

For ASRS to avail themselves of these opportunities a much more compact review and decision making process will be required

## Recommendations for ASRS

ASRS has been well served by its relatively conservative strategy

Conservatism in the future will likely involve new portfolio structures that provide a conservative, risk controlled, strategy but look different from today's methods

Many portfolio structures in use today by institutional investors seem to only create wealth for the investment managers

The long-term trend of demand for equities should be monitored

In light of the development of more sophisticated portfolio structuring techniques, continuous enhancements to the ASRS' equity and fixed income portfolio structures should be explored

New asset classes should be considered to enhance beta return and diversify market risk

ASRS should examine new sources of alpha but with an informed, open-minded but skeptical perspective

## Recommendations for ASRS

ASRS should consider if they should develop the accelerated decision-making process required to take advantage of opportunities for profit that are available for very short periods

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